

Appl. N^o. 10/007,375
Amdt. dated 2/18/04

Amendments to the Specification

Please replace the paragraph beginning at page 2, line 12, with the following rewritten paragraph:

-- The present invention addresses the difficulties and problems discussed above by providing a two-step treatment process for treating lightweight nonwovens and preserving desired properties of alcohol repellency on one side and/or antistatic characteristics on the other side. The resulting treated nonwoven also has good hydrohead properties. In one embodiment the process involves a saturation treatment for alcohol repellency using a minimum treatment amount followed by a single side spraying of a light amount of antistatic treatment composition. In a second embodiment each side is treated separately with printing forming light spray applications using a minimum of treatment composition resulting in imparting alcohol repellency and/or antistatic characteristics primarily to the respective treated sides only. Other application means are also contemplated. In these preferred embodiments the nonwoven has a basis weight in the range of from about 17 gsm to about 135 gsm and ideally for many applications, in the range of from about 34 to about 88 gsm. The alcohol repellency treatment will generally add only about 0.05 gsm to about 0.41 gsm to the fabric weight and ideally for many applications, within the range of from about [.10] 0.10 gsm to about 0.26 gsm. Similarly, the antistatic treatment composition will add only about 0.017 gsm to about 1.08 gsm to the fabric weight and ideally for many applications, within the range of from about 0.068 gsm to about 0.44 gsm. Despite these low add-on amounts, the treated nonwoven will have antistatic properties of less than about 0.50 sec by static decay test (described below) and ideally for many applications less than about 0.05 sec and will also have alcohol repellency of at least 3 to about 70% isopropyl alcohol and ideally for many applications, at least about 3 at 80% isopropyl alcohol. The treated nonwoven will also have a hydrohead of at least about 50 mB and ideally for many applications, at least about 70 mB. The resulting nonwoven is suited for use particularly as infection control products like a medical fabric especially when starting with a spunbond, meltblown or

Appl. No. 10/007,375
Amdt. dated 2/18/04

spunbond/meltblown laminate of polymers selected from thermoplastic polymers including polyolefins such as polypropylene, polyethylene as well as copolymers including propylene or ethylene monomer units. --

Please replace the paragraph beginning at page 9, line 24, with the following rewritten paragraph:

-- As used herein "thermal point bonding" involves passing a fabric or web of fibers to be bonded between a heated calender roll and an anvil roll. The calender roll is usually, though not always, patterned in some way so that the entire fabric is not bonded across its entire surface, and the anvil roll is usually flat. As a result, various patterns for calender rolls have been developed for functional as well as aesthetic reasons. One example of a pattern has points and is the Hansen Pennings or "H&P" pattern with about a 30% bond area with about 200 bonds/square inch as taught in U.S. Patent 3,855,046 to Hansen and Pennings. The H&P pattern has square point or pin bonding areas wherein each pin has a side dimension of 0.038 inches (0.965 mm), a spacing of 0.070 inches (1.778 mm) between pins, and a depth of bonding of 0.023 inches (0.584 mm). The resulting pattern has a bonded area of about 29.5%. Another typical point bonding pattern is the expanded Hansen Pennings or "EHP" bond pattern which produces a 15% bond area with a square pin having a side dimension of 0.037 inches (0.94 mm), a pin spacing of 0.097 inches (2.464 mm) and a depth of 0.039 inches (0.991 mm). Another typical point bonding pattern designated "714" has square pin bonding areas wherein each pin has a side dimension of 0.023 inches, a spacing of 0.062 inches (1.575 mm) between pins, and a depth of bonding of 0.033 inches (0.838 mm). The resulting pattern has a bonded area of about 15%. Yet another common pattern is the C-Star pattern which has a bond area of about 16.9%. The C-Star pattern has a cross-directional bar or "corduroy" design interrupted by shooting stars. Other common patterns include a diamond pattern with repeating and slightly offset diamonds with about a 16% bond area and a wire weave pattern looking as the name suggests, e.g. like a window screen, with about a 19% bond area. Typically, the percent bonding area varies from around 10% to around 30% of the area of the fabric laminate web. As

Appl. No. 10/007,375
Amdt. dated 2/18/04

[[in]] is well known in the art, the spot bonding holds the laminate layers together as well as imparts integrity to each individual layer by bonding filaments and/or fibers within each layer. --

Please replace the paragraph beginning at page 13, line 10, with the following rewritten paragraph:

-- Procedure:

De-ionized water was used. Repellent 9356H is a fluorinated acrylic copolymer dispersion from DuPont. Its purpose is to give alcohol repellency to the dried fabric. 1-octanol (99%) was used as received from Aldrich Chemical Company, Inc. The purpose of the octanol is to aid in wetting of the fabric. This will volatilize with the water during the drying procedure. Materials were added in the order shown under vigorous agitation with a Ross high shear mixer and allowed to mix for at least 15 minutes to fully solubilize the octanol. --

Please replace the paragraph beginning at page 14, line 23, with the following rewritten paragraph:

-- Procedure:

De-ionized water was used. Unidyne S-1042 is an experimental, proprietary fluoroalkyl acrylate copolymer emulsion from Daikin America, Inc. Its purpose is to give alcohol repellency to the dried fabric. 1-octanol (99%) was used as received from Aldrich Chemical Company, Inc. The purpose of the octanol is to aid in wetting of the fabric. This will volatilize with the water during the drying procedure. Materials were added in the order shown under vigorous agitation with a Ross high shear mixer and allowed to mix for at least 15 minutes to fully solubilize the octanol. --

Appl. No. 10/007,375
Amdt. dated 2/18/04

Please replace the paragraph beginning at page 16, line 6, with the following rewritten paragraph:

-- Procedure:

De-ionized water was used. Unidyne TG-573 is a fluoroalkyl acrylate copolymer emulsion from Daikin America, Inc. Its purpose is to give alcohol repellency to the dried fabric. 1-octanol (99%) was used as received from Aldrich Chemical Company, Inc. The purpose of the octanol is to aid in wetting of the fabric. This will volatilize with the water during the drying procedure. Materials were added in the order shown under vigorous agitation with a Ross high shear mixer and allowed to mix for at least 15 minutes to fully solubilize the octanol. --

Please replace the paragraph beginning at page 17, line 16, with the following rewritten paragraph:

-- Procedure:

De-ionized water was used as obtained from on-site system. Unidyne S-1042 is an experimental, proprietary fluoroalkyl acrylate copolymer emulsion from Daikin America, Inc. Its purpose is to give alcohol repellency to the dried fabric. 1-octanol (99%) was used as received from Aldrich Chemical Company, Inc. The purpose of the octanol is to aid in wetting of the fabric. This will volatilize with the water during the drying procedure. Materials were added in the order shown under vigorous agitation with a Ross high shear mixer and allowed to mix for at least 15 minutes to fully solubilize the octanol. --